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## PATENT ABSTRACTS OF JAPAN

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H01M 2/16  
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H01M 4/68

1)Application number : 08-221880

(71)Applicant : DAINIPPON PRINTING CO LTD

2)Date of filing : 06.08.1996

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MIYANOWAKI SHIN

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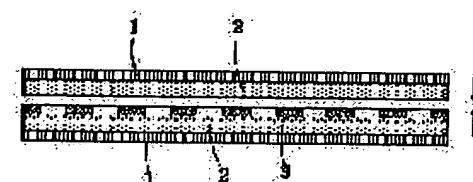
UMEDA KAZUO

4) ELECTRODE PLATE FOR NONAQUEOUS ELECTROLYTE SECONDARY BATTERY AND  
ANUFACTURE THEREOF

## 7)Abstract:

PROBLEM TO BE SOLVED: To provide an electrode plate with a separator, capable of preventing the coming off of an active material, sharply reacting with the overheating of a battery to prevent fire or explosion of the battery by previously sticking a separator to an electrode plate different from the conventional method in which a separator film is interposed between positive and negative plates.

SOLUTION: An electrode plate is prepared in such a way that an electrode- coating solution, comprising an active material and a binder is applied to a current collector 1, dried to obtain an electrode plate (2: an active material layer), and a porous separator 3 is formed on the electrode plate in a coating process, laminating process, or transferring process. As the separator material, thermoplastic resin and wax are listed, but wax is preferable, because the wax sharply react with heat to melt. The melting point of these materials is about 40-160°C. The separator is manufactured from a material melting by heat in a film-forming process or a pore-forming process.



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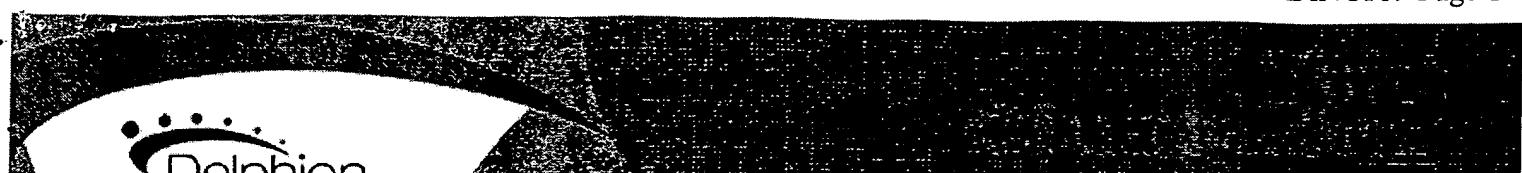
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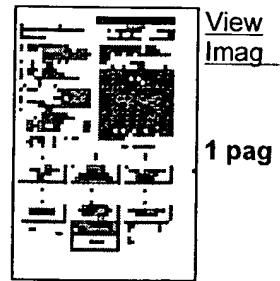
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Title: **JP10050348A2: ELECTRODE PLATE FOR NONAQUEOUS ELECTROLYTE SECONDARY BATTERY AND MANUFACTURE THEREOF**  
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Country: JP Japan  
 Kind: A

Inventor(s): MIYAZAKI YUICHI  
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Applicant/Assignee: **DAINIPPON PRINTING CO LTD**  
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Issued/Filed Dates: **Feb. 20, 1998 / Aug. 6, 1996**

Application Number: **JP1996000221880**

IPC Class: **H01M 10/40; H01M 2/16; H01M 4/04; H01M 4/68;**

Priority Number(s): Aug. 6, 1996 **JP19961996221880**



Abstract: **Problem to be solved:** To provide an electrode plate with separator, capable of preventing the coming off of an active material, sharply reacting with the overheating of a battery to prevent fire or explosion of the battery by previously sticking a separator to an electrode plate different from the conventional method in which a separator film is interposed between positive and negative plates.

**Solution:** An electrode plate is prepared in such a way that an electrode-coating solution, comprising an active material and a binder is applied to a current collector 1, dried to obtain an electrode plate (2: an active material layer), and a porous separator 3 is formed on the electrode plate in a coating process, laminating process, or transferring process. As the separator material, thermoplastic resin and wax are listed, but wax is preferable, because the wax sharply react with heat to melt. The melting point of these materials is about 40-160°C. The separator is manufactured from a material melting by heat in a film-forming process or a pore-forming process.

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